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Histopathological Effects of Trichodiniasis in Farmed Freshwater Rainbow Trout, Oncorhynchus mykiss, in West of Iran

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Abstract : The aim of present study was to monitor the presence of Trichodina sp. in Rainbow trout, Oncorhynchus mykiss collected from various fish farms in the western provinces of Iran during January, 2013- January, 2014. Out of 675 sampled fish 335, (49.16%) were infested with Trichodina. The highest prevalence was observed in the spring and winter followed by autumn and summer. In general, the intensity of infection was low except in cases where outbreaks of Trichodiniasis endangered the survival of fish in some ponds. In light infestation Trichodina is usually present on gills, fins and skin of apparently healthy fish. Clinical signs of Trichodiniasis only appear on fish with heavy infections and cases of moderate ones that are usually exposed to one or more stress factors including, rough handling during transportation from ponds, overcrowdness, malnutrition, high of free ammonia and low of oxygen concentration. Clinical signs of Trichodiniasis in sampled fish were sluggish movement, loss of appetite, black coloration, necrosis and ulcer on different parts of the body, detached scales and excessive accumulation of mucous in gill pouches. The most obvious histopathological changes in diseased fish were sloughing of the epidermal layer, aggregation of leucocytes and melanine-carrying cells (between the dermis and hypodermis) and proliferative changes including hyperplasia and hypertrophy of the epithelial lining cells of gill filaments which resulted in fusion of secondary lamellae. Control of Trichodiniasis, has been achieved by formalin bath treatment at a concentration of 250 ppm for one hour.

Keywords : gill, histopathology, rainbow trout, Trichodina
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